

Module 6: Infants and Children (Optional)

Lesson 6-1

Infants and Children

Objectives

Objectives Legend

C=Cognitive A=Affective P=Psychomotor

1 = Knowledge level

2 = Application level

3 = Problem-solving level

Cognitive Objectives

At the completion of this lesson, the First Aider student will be able to:

- 6-1.1 Describe differences in anatomy and physiology of the infant and child.(C-1)
- 6-1.2 Describe assessment of the infant and child. (C-1)
- 6-1.3 Recognize distressed breathing in the infant and child.(C-1)
- 6-1.4 Describe the causes of seizures in infants and children.(C-1)
- 6-1.5 Describe first aid for infants and children with trauma. (C-1)
- 6-1.6 Describe the signs and symptoms of child abuse. (C-1)

Affective Objectives

At the completion of this lesson, the First Aider student will be able to:

- 6-1.7 Understand the First Aider's own emotional response to caring for infants and children. (A-1)
- 6-1.8 Demonstrate a caring attitude towards infants and children with illness and injury. (A-3)
- 6-1.9 Place the interests of the ill or injured infant or child as the foremost consideration when making emergency care decisions. (A-3)

Psychomotor Objectives

At the completion of this lesson, the First Aider student will be able to:

- 6-1.10 Demonstrate differences in the assessment of infants and children. (P-1,2)

Preparation

Motivation:

While first aid for infants and children in a general industry setting is unusual, many First Aiders, as a result of their training, will appreciate the potential for using their knowledge and skills on infants or small children. A First Aider who is suddenly confronted with an ill or injured infant or child outside the confines of the occupational environment would be more calm, prepared and skillful when dealing with life-threatening childhood emergencies (as they are often emotionally difficult), were they to be more familiar with the special needs of infants and children.

While this module is an optional portion of these guidelines, being familiar with the special needs of infants and children may be viewed as a moral necessity for program developers, instructors and/or employers who are driven not only by occupational regulation, but by the broader humanitarian aspects of first aid.

Aside from a general industry setting, certain other persons may be required by job description, rule, policy, custom or public perception to receive adequate first aid training for infants and children. These persons may include (but are not necessarily limited to) schoolteachers, childcare workers, corrections officers, line of duty police officers, firefighters and pool and ocean lifeguards.

Prerequisites:

Preparatory, Airway, Patient Assessment Modules

Materials

AV Equipment:

Utilize various audio-visual materials relating to first aid. The continuous development of new audio-visual materials relating to first aid requires careful review to determine which best meet the needs of the program. Materials should be edited to ensure that the objectives of these guidelines are met.

Equipment:

None.

Recommended Minimum Time to Complete:

See Page 12 of Instructor's Course Guide

Presentation

Declarative (What)

- I. Anatomical and Physiological Concerns
 - A. Small airways are easily blocked by secretions and swelling.
 - B. Tongue is large compared to mouth and airway.

- C. Positioning the airway is different in infants and children. Do not tilt the head back.
 - D. Infants and children can compensate well for short periods of time.
 - 1. They compensate by increasing breathing rate and effort.
 - 2. When compensation mechanisms fail, children deteriorate rapidly.
 - E. Keep infants and children warm.
- II. Airway
- A. Essential skills-review Module 2-1, Airway, with emphasis on infants and children.
 - 1. Airway opening.
 - a. Position to open airway is different; Head-neutral, chin-lift.
 - b. Place hand or soft material under shoulders to assist in maintaining airway position (non-trauma).
 - c. Head-neutral with chin-lift. Stabilize the head (trauma).
 - 2. Clearing complete obstructions.

See "Pediatric Basic Life Support " in the most current version of the Emergency Cardiac Care Committee and Subcommittees, American Heart Association. Guidelines for cardiopulmonary resuscitation and emergency cardiac care (JAMA).

- III. Assessment
- A. Be sure to involve the parents or care-giver in your assessment and first aid care of infants and children.
 - 1. Agitated parents equal agitated child.
 - 2. Calm parents equal calm child.
 - B. General impression of well versus sick child can be obtained from overall appearance.
 - 1. Assess level of responsiveness.
 - 2. Effort of breathing.
 - 3. Color
 - 4. Quality of cry or speech.
 - 5. Interaction with environment or parents/caregivers.
 - a. Normal behavior for child of this age?
 - b. Playing?
 - c. Moving around?
 - d. Attentive?
 - e. Eye contact?
 - f. Recognizes parents/caregivers?
 - 6. Emotional state (crying, upset, scared).
 - 7. Response to the First Aider
 - C. Approach to Evaluation
 - 1. Observe as you approach.
 - a. Mechanism of Injury
 - b. Assess surroundings
 - c. Breathing assessment includes;
 - (1) Breathing effort.

- (2) Noisy breathing.
 - (3) Breathing rate.
- 2. Infant or child assessment.
 - a. Check brachial pulse in infants and small children.
 - b. Assess skin color, temperature, and capillary refill.
- IV. Common problems in infants and children.
 - A. Airway Obstructions
 - 1. Partial airway obstruction-infant/child alert.
 - a. Patient can speak, breathe and cough forcefully.
 - b. Pink skin color.
 - c. Sit child upright. Watch for signs of complete obstruction.
 - 2. Partial airway obstruction with cyanosis (bluish skin color) or complete obstruction
 - a. Patient cannot speak, breathe or cough forcefully.
 - b. Decreased level of responsiveness.
 - c. First aid: See "Pediatric Basic Life Support " in the most current version of the Emergency Cardiac Care Committee and Subcommittees, American Heart Association. Guidelines for cardiopulmonary resuscitation and emergency cardiac care (JAMA).
 - B. Breathing Problems
 - 1. Respiratory distress/failure may result from a variety of medical diseases or injuries, most commonly;
 - a. Infections (e.g., croup, epiglottitis).
 - b. Asthma
 - c. Drowning or near-drowning.
 - d. Trauma.
 - 2. Signs and Symptoms
 - a. Increased breathing effort.
 - b. Noisy breathing.
 - c. Increased breathing rate.
 - d. Abnormal color - pale, mottled or blue.
 - e. Decreased level of responsiveness
 - 3. Respiratory arrest may follow.
 - 4. Role of the First Aider
 - a. Complete the First Aider assessment
 - (1) Complete a scene assessment before initiating emergency medical care.
 - (2) Complete an initial assessment on all ill or injured infants and children.
 - (3) Assure that EMS is activated.
 - (4) Complete the physical assessment (optional).
 - (5) Complete on-going assessments.
 - b. Comfort, calm, and reassure the infant/child while awaiting EMS.
 - c. Allow child to maintain position of comfort.
 - d. Provide ventilations for respiratory arrest.

- e. Monitor pulse - heart may stop. Be prepared to provide external chest compressions.
- C. Seizures
 - 1. Seizures, including those caused by fever, should be considered potentially life threatening.
 - 2. May be brief or prolonged.
 - 3. Caused by a variety of conditions;
 - a. Decreased oxygen to the brain.
 - b. Fever
 - c. Infections.
 - d. Poisoning.
 - e. Low blood sugar.
 - f. Trauma.
 - g. Shock.
 - h. Could be unknown cause in children.
 - 4. Role of the First Aider
 - a. Complete the First Aider assessment.
 - (1) Complete a scene assessment and use appropriate BSI before initiating first aid.
 - (2) Complete an initial assessment on all ill or injured infants and children.
 - (3) Assure that EMS is activated.
 - (4) Complete the physical assessment (optional).
 - (5) Complete on-going assessments.
 - b. Comfort, calm, and reassure the infant/child while awaiting EMS.
 - (1) Protect the infant/child from the environment.
 - (2) Protect modesty - ask bystanders to leave the area.
 - (3) Assure an open airway.
 - (4) Assess for injuries that may have occurred during the seizure.
 - (5) Place infant/child in the recovery position if no possibility of spine trauma.
 - (6) Never restrain the person.
 - (7) Do not put anything in the infant/child 's mouth.
 - (8) If the infant/child is bluish following seizure, assure an open airway, assess breathing and ventilate if infant/child is not breathing.
 - (9) Report assessment findings to EMS.
 - (10) Observe and describe the seizure to EMS.
 - (a) First Aider may be the only witness to seizure. This may help EMS determine the cause of seizure.
- D. Decreased level of responsiveness
 - 1. Caused by a variety of conditions.
 - a. Low blood sugar.
 - b. Poisoning.
 - c. Post-seizure.
 - d. Infection.
 - e. Trauma.

- f. Shock.
- 2. Role of the First Aider
 - a. Complete the First Aider assessment
 - (1) Complete a scene assessment before initiating emergency medical care.
 - (2) Complete an initial assessment on all ill or injured infants and children.
 - (3) Assure that EMS is activated.
 - (4) Complete the physical assessment (optional).
 - (5) Complete on-going assessments.
 - b. Comfort, calm, and reassure the infant/child while awaiting EMS.
 - (1) Assure an open airway.
 - (2) Be prepared to provide ventilations.
 - (3) If non-trauma, place the infant/child in the recovery position.
- E. Sudden Infant Death Syndrome (SIDS)
 - 1. Signs and symptoms
 - a. Most often occurs in the first six months of life.
 - b. Cause is not clearly understood.
 - c. Baby is most commonly discovered without signs of life after sleeping.
 - 2. Role of the First Aider
 - a. Complete the First Aider assessment
 - (1) Complete a scene assessment before initiating emergency medical care.
 - (2) Complete an initial assessment on all ill or injured infants and children.
 - (3) Assure that EMS is activated.
 - b. Make an effort to comfort, calm, and reassure the parents while awaiting EMS.
 - (1) Even though resuscitation is unlikely, perform CPR.
 - (2) Parents will probably be in great emotional distress.
 - (3) Avoid comments suggesting parental blame.
- V. Trauma
 - A. Injuries are the leading cause of death in infants and children.
 - B. Blunt trauma is most common.
 - C. There may be significant injuries without external signs.
 - D. Consider the mechanism of injury and suspect internal injuries.
 - E. Role of the First Aider
 - 1. Complete the First Aider assessment
 - a. Complete a scene assessment before initiating emergency medical care.
 - b. Complete an initial assessment on all ill or injured infants and children.
 - c. Assure that EMS is activated.
 - d. Complete the physical assessment (optional).
 - e. Complete on-going assessments.
 - 2. Comfort, calm, and reassure the infant/child while awaiting EMS.
 - a. Assure an open airway and stabilize head and spine.
 - b. Manually stabilize limb injuries if possible.

VI. Child Abuse

- A. Abuse: Improper or excessive action causing injury or harm.
- B. Neglect: Insufficient attention or respect resulting in negative effects on the infant's/child's well being.
- C. Some First Aiders (e.g., law enforcement officers, daycare workers), may have a legal responsibility to report abuse/neglect to appropriate authorities.
- D. Considering the devastating and life-long consequences of child abuse, one may consider it a moral obligation to report suspected abusers to authorities.
- E. Sign and symptoms of abuse.
 - 1. Signs of repetitive injuries such as multiple bruises in various stages of healing.
 - 2. Injury inconsistent with mechanism described.
 - 3. Cigarette burns, whip marks and handprints on infant/child's body.
 - 4. Injuries inconsistent with developmental stage.
 - 5. Changing story.
 - 6. Unexplained injury.
- F. Sign and symptoms of neglect.
 - 1. Lack of adult supervision.
 - 2. Malnourishment.
 - 3. Unsafe or unhealthy living environment.
 - 4. Untreated injury/illness.

VII. Debriefing

- A. Serious injury or death of infant or child is usually emotionally difficult.
- B. Early recognition and consultation with an appropriately licensed mental health professional may prevent more serious emotional/psychological difficulties for First Aiders in these painful situations.

Application

Procedural (How)

- 1. Using a manikin, demonstrate the techniques of opening the airway in infants and children.
- 2. Demonstrate ventilating infants and children.
- 3. Demonstrate assessment of infants and children.
- 4. Demonstrate the first aid for partial and complete airway obstructions in infants and children.
- 5. Demonstrate the first aid for breathing problems in infants and children.
- 6. Demonstrate the first aid for seizures and decreased level of responsiveness.

Contextual (When, Where, Why)

The First Aider must have an understanding of the unique needs of infants and children. Since a child cannot be isolated from parents/care-givers, the emotions involved will probably make providing first aid more stressful and/or difficult. A calm, caring attitude is essential.

Student Activities

Auditory (Hearing)

1. The student should hear information on the special needs of infants and children.

Visual (Seeing)

1. The student should see visual representations of infants and children with injury/illness.
2. The student should see resuscitation barriers appropriate for infants and children.

Kinesthetic (Doing)

1. The student should practice opening the airway in infants and children.
2. The student should practice ventilating infants and children.
3. The student should practice assessment of infants and children.
4. The student should practice the first aid for partial and complete airway obstructions in infants and children.
5. The student should practice the first aid for breathing problems in infants and children.
6. The student should practice the first aid for seizures and decreased level of responsiveness.

Instructor Activities

Facilitate discussion and supervise practice.

Reinforce student progress in cognitive, affective, and psychomotor domains.

Redirect students having difficulty with content.

Evaluation

Evaluate the actions of the First Aider students during role play, practice or other skill stations to determine their comprehension of the cognitive and affective objectives and reasonable proficiency with the psychomotor objectives.

Remediation

Identify students or groups of students who are having difficulty with this subject content.

Enrichment

Address unique student requirements or local area needs concerning this topic.